

REMARKS

This application pertains to a novel multilayer film useful as a packaging material.

Claims 1-24 are pending.

It appears from PAIR that an error was made in the patent office in entering Applicants' original specification, in that 8 amended pages were annexed to the end of the specification (as can be seen in PAIR).

Applicants' original transmittal letter to the PTO included an English translation of the specification, which consisted of 13 pages (not counting the pages of claims). Applicants' transmittal also included an English translation of the annexes of the International Preliminary Examination Report, which consisted of amended pages submitted during the International Stage. These pages were not intended to be added to the English translation of specification, but it seems that through error the Patent Office did add them to the specification.

The amendments made during the International Stage were already incorporated into the English translation of the specification that was filed, however, and pages 1-13 of the specification constitutes the complete disclosure, including the amendments made during the International Stage.

Accordingly, the amended pages annexed to the specification and following page 13 of the English translation, shown in PAIR, should be separated from the specification and entered as a separate category of English translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)), in accordance with the original transmittal letter submitting the application to the PTO.

Turning now to the substance of the Office Action,

Claims 1-7, 13-16 ,18, 19 and 24 stand rejected under 35 U.S.C. 103(a) as obvious over Hanada et al. (US 2003/0186039) and in view of Hatke et al. (U.S. 6,239,187).

As previously pointed out, Applicants' claims pertain to a multilayer film having the following sequence of layers:

- A) an outer base layer of polyolefin foam containing 2.1 to 20% by weight of at least one nucleating agent,
- B) a layer formed of at least one polyolefin of the foam layer A), C-E) optional layers,
- F) a coupling agent layer (=bonding layer) and
- G) a heat sealable and/or peelable surface layer

wherein the total thickness of layer A) and B) is in a range of from 0.5 to 2 mm and the thickness of layer B) is in a range from 1/6 to 1/2 of the thickness of layer A).

According to this claimed invention the multilayer film has the following characteristics:

- 1.) An outer base layer A) which, as an outer base layer, is a surface layer;
- 2.) This outer base layer A) contains a certain amount of nucleating agent, namely 2.1 to 20% per weight of the nucleating agent;
- 3.) A layer B) formed of polyolefin (without any nucleating agent);

- 4.) A layer G, as a heat sealable and/or peelable surface layer;
- 5.) The total thickness of layers A) and B) – not of all layers of the inventive multilayer film – is in a certain range and
- 6.) The thickness of layer B) is only in the range of a certain part of the thickness of layer A).

These characterizing features of the claimed invention cannot be found anywhere in US200310186039 (Hanada), as set forth in the following distinctions:

The inventive multilayer film has an outer base layer (=substrate layer) formed of polyolefin foam which is covered on one surface with a sequence of layers B), F) and G) whereby G) is the surface layer of the multilayer film. Consequently none of the figures la-d of the Hanada's reference shows the inventively claimed multilayer film.

Figure la respectively ld shows a base layer of foamed material, however the sequence of layers B), F) and G) is not present. Even if one assumes that in figure la the non-foamed layer is layer B) of the claimed multilayer film, it is respectfully pointed out that according to the claimed invention layer B) is never a surface layer. Moreover, as set forth in [0064], figure ld is characterized by a surface layer which is "a so called essential non-foamed layer". According to the disclosure of the Hanada reference such layers always contain 40 to 100 parts per weight based on 100 parts per weight of a polyolefin resin of a filler. Such a high amount of filler renders a surface layer neither sealable nor peelable.

One further important difference between the figure la respectively ld and the present invention is of course that the non-foamed polyolefin layer of figure 1a always contains at least 40 parts per weight of a filler. Layer B) never contains any filler.

A further important difference between the claimed multilayer film and the film disclosed in the Hanada's reference is of course that the claimed inventive

multilayer film contains in layer A), formed of a foamed material, 2.1 to 20% of nucleating agent. As the examiner emphasizes that according to [0120] only one part per weight of nucleating agent is added for the production of foamed polyolefin resins the Hanada reference does not teach or suggest the claimed invention even if only for this difference alone.

In addition, it must be further emphasized that according to [0073] the ratio of the thickness of the foamed layer to the essential non-foamed layer is preferably within the range of from 100:1 to 100:30, whereas according to the claimed invention the ratio of the foamed layer A) to the non-foamed layer B) is 6:1 to 2:1. This means that this inventive feature – in addition to the other differences – is also not met by the Hanada reference. The examiner is further not correct when he refers to the total thickness of foamed layer and non-foamed layers because according to the claimed invention only the total thickness of layers A) and B) is of relevance and the thickness ratio between A) and B) but not any thickness ratio of the foamed layer to all other layers of the claimed multilayer film.

In summarizing the differences between the claimed invention and that of the Hanada reference it is clear that the structure of the multilayer film, the amount of nucleating agent and its dosing in different layers, the thickness ratio between the foamed layer and the essential non-foamed layer and the composition of the foamed layer and the non-foamed layers are different.

The Examiner insists that a person skilled in the art would combine Hanada with Hatke, to somehow arrive at Applicants' invention. It is respectfully pointed out, however, that:

1. Hanada refers to a foamed polypropylene sheet whereas the Hatke reference pertains to a foam based on a polycycloolefin. These two polymer materials have completely different properties and therefore a person skilled in the art having to solve a problem referring to polyolefins would not seek an answer in the state of the art concerning polycycloolefins.

2. The Hanada reference concerns multilayer sheets whereas the Hatke reference concerns one foamed layer as a foamed sheet.

Therefore, for these two reasons a person skilled in the art would never combine the teachings of these two references, unless such person was already aware of the present application and was attempting to duplicate it by hindsight reconstruction. The ability to arrive at Applicants' invention by hindsight reconstruction after having read the present specification does not in any way support a contention that the invention is obvious.

It is useful at this point to understand the differences between a nucleating agent and a filler.

As cited in the Hanada reference, the filler used in the multilayer foamed sheet, especially in the compact sheet of polypropylene, functions as an agent for increasing the mechanical properties of the sheet without increasing the weight of the complete sheet (see Hanada's Abstract).

According to the teaching of the Hatke reference, a nucleating agent is used to influence the foam formation, especially the cell creation, as set forth in column 10, lines 51 to 57, but is not used to improve any other properties. Consequently, a person skilled in the art knows that a nucleating agent influences the cell formation. However, a person skilled in the art cannot derive therefrom that the addition of a nucleating agent in a certain amount to the foamed layer allows a higher production speed and an unexpected improvement of mechanical properties such as modulus of elasticity as well as tensile strength of the foamed sheet.

This has been proven in the examples of the present application and set forth in the data and results achieved with an inventive multilayer foam sheet in comparison to a foam sheet without nucleating agent.

Accordingly, Applicants' claims cannot fairly be seen as obvious over any combination of the Hanada and Hatke references, and the rejection of claims 1-7, 13-16, 18, 19 and 24 under 35 U.S.C. 103(a) as obvious over Hanada et al. (US 2003/0186039) and in view of Hatke et al. (U.S. 6,239,187) should now be withdrawn.

Claims 8-12, 17, 20-23 stand rejected under 35 U.S.C. 103(a) as obvious over Hanada et al. (US 2003/0186039) in view of Hatke et al. (U.S. 6,239,187) and further in view of Laurent et al. (U.S. 6,132,539).

The differences between Applicants' invention and anything that can be derived from the Hanada/Hatke combination of references have been discussed above.

The Examiner relies on the Laurent reference for a barrier layer containing stack.

The barrier layer stack referred to by the Examiner could not possibly overcome any of the differences discussed above between Applicants' novel multilayer films and anything that can be derived from the Hanada/Hatke combination of reference.

The rejection of claims 8-12, 17 and 20-23 under 35 U.S.C. 103(a) as obvious over Hanada et al. (US 2003/0186039) in view of Hatke et al. (U.S. 6,239,187), and further in view of Laurent et al (U.S. 6,132,539) should therefore now be withdrawn.

In view of the present amendments and remarks, it is believed that claims 1 - 24 are now in condition for allowance. Reconsideration of said claims by the Examiner is respectfully requested, and the allowance thereof is courteously solicited. Should the Examiner not deem the present amendment and remarks to place the instant claims in condition for allowance, it is respectfully requested that this Amendment Under Rule 116 be entered for the purpose of placing the prosecution record in better condition for appeal.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, Applicant requests that this be considered a petition therefor. Please charge the required petition fee to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fee or credit any excess to Deposit Account No. 14-1263.

Respectfully submitted,
NORRIS, McLAUGHLIN & MARCUS P.A.

By William C. Gerstenzang/
William C. Gerstenzang
Reg. No. 27,552

WCG/tmo

875 Third Avenue- 18th Floor
New York, New York 10022
(212) 808-0700